

WHAT IS CLAIMED IS:

1. A sheet-fed scanning device capable of detecting a document edge, the sheet-fed scanning device comprising:

a scanning module for scanning a document with a light ray; and

5 an automatic document feeder for feeding the document across a scanning region on a sheet passageway for the scanning module to scan, wherein a section of a guide plate of the sheet passageway located within the scanning region is formed with a concave portion, and the document moving across the scanning region is located between the concave portion and the scanning module, such that
10 the intensity of a first brightness of the concave portion sensed by the scanning module is different from the intensity of a second brightness of the document sensed by the scanning module, to facilitate the detection of the document edge.

2. The sheet-fed scanning device according to claim 1, wherein skewness of the document is calculated according to the detected document edge.

15 3. The sheet-fed scanning device according to claim 1, wherein the concave portion comprises a long slot having a longitudinal side substantially perpendicular to a feeding direction of the document.

4. The sheet-fed scanning device according to claim 3, wherein the long slot penetrates through the guide plate of the sheet passageway.

20 5. The sheet-fed scanning device according to claim 3, wherein the long slot does not penetrate through the guide plate of the sheet passageway.

6. The sheet-fed scanning device according to claim 1, wherein the concave

portion comprises a plurality of long slots arranged in one straight line, which is substantially perpendicular to a feeding direction of the document.

7. The sheet-fed scanning device according to claim 6, wherein each of the long slots penetrates through the guide plate of the sheet passageway.

5 8. The sheet-fed scanning device according to claim 3, wherein each of the long slots does not penetrate through the guide plate of the sheet passageway.

9. The sheet-fed scanning device according to claim 1, further comprising:
a reflecting mirror, which is disposed in the concave portion, for reflecting the light ray away from an image sensor of the scanning module.

10 10. The sheet-fed scanning device according to claim 1, further comprising:
a reflective layer, which has a high reflectivity and is disposed in the concave portion, for reflecting the light ray away from an image sensor of the scanning module.

11. The sheet-fed scanning device according to claim 1, further comprising:
15 a light-absorbing layer, which has a high light-absorption coefficient and is disposed in the concave portion, for absorbing the light ray.

12. A sheet-fed scanning device capable of detecting a document edge, the sheet-fed scanning device comprising:

a housing;
20 a first scanning module, which is contained in the housing, for scanning a front side of a document with a first light ray;

a second scanning module for scanning a back side of the document with a second light ray; and

an automatic document feeder for feeding the document across a first scanning region and a second scanning region on a sheet passageway for the first
5 and second scanning modules to scan, respectively, wherein:

a section of a guide plate of the sheet passageway located within the first scanning region is formed with a first concave portion, and the document moving across the first scanning region is located between the first concave portion and the first scanning module, such that the intensity of a first brightness of the first
10 concave portion sensed by the first scanning module is different from the intensity of a second brightness of the document sensed by the first scanning module, to facilitate the detection of the document edge; and

a section of the sheet passageway located within the second scanning region is formed with a second concave portion, and the document moving across the
15 second scanning region is located between the second concave portion and the second scanning module, such that the intensity of a third brightness of the second concave portion sensed by the second scanning module is different from the intensity of a fourth brightness of the document sensed by the second scanning module, to facilitate the detection of the document edge.

20 13. The sheet-fed scanning device according to claim 12, wherein skewness of the document is calculated according to the detected document edge.

14. The sheet-fed scanning device according to claim 12, wherein the

second concave portion comprises a long slot having a longitudinal side substantially perpendicular to a feeding direction of the document.

15. The sheet-fed scanning device according to claim 14, wherein the long slot penetrates through the housing.

5 16. The sheet-fed scanning device according to claim 12, wherein the second concave portion comprises a plurality of long slots arranged in one straight line, which is substantially perpendicular to a feeding direction of the document.

17. The sheet-fed scanning device according to claim 16, wherein the long slots penetrate through the housing.

10 18. The sheet-fed scanning device according to claim 12, further comprising:

a reflecting mirror, which is disposed in the second concave portion, for reflecting the second light ray away from an image sensor of the second scanning module.

15 19. The sheet-fed scanning device according to claim 12, further comprising:

a reflective layer, which has a high reflectivity and is disposed in the second concave portion, for reflecting the second light ray away from an image sensor of the second scanning module.

20 20. The sheet-fed scanning device according to claim 12, further comprising:

a light-absorbing layer, which has a high light-absorption coefficient and is disposed in the second concave portion, for absorbing the second light ray.